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ABSTRACT

Relative costs in specialized occupational fields of study at the California State University and the University of California are evaluated by the California Postsecondary Education Commission. Procedures used by the universities to allocate resources among various technical and specialized fields of study are described. The analysis indicates that both universities have the option of adjusting support in areas such as faculty salaries and staffing ratios to respond to changing demands for educational services. The Commission recommends continuation of current state budget procedures, which are judged to be responsive to the funding needs of the many educational fields of study at the University of California and California State University, including technical fields. It is also concluded that the current system provides the flexibility needed to respond to changing student demands and to changes in systemwide and state educational priorities. Information is included on: faculty workload formulas that take into account level and mode factors, the current space standards for disciplines at California State University, and student-faculty ratios used in funding health sciences at the University of California. The text of a relevant state legislative resolution is appended. (SW)

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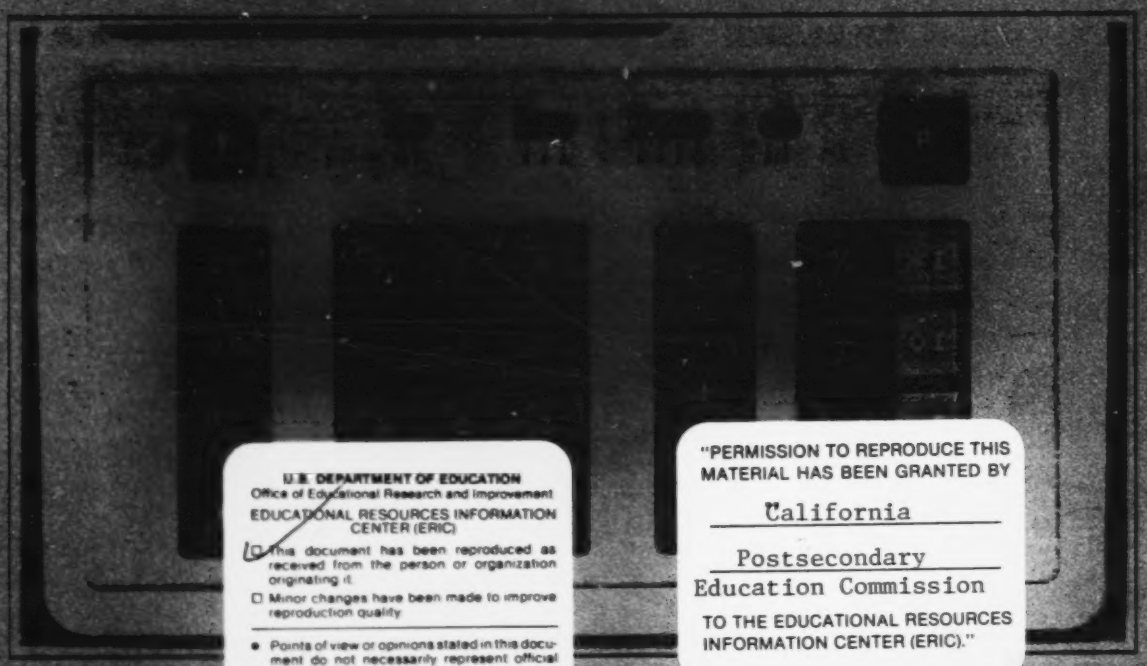
EDUCATIONAL COSTS IN TECHNICAL AND PROFESSIONAL FIELDS OF STUDY



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Summary

Assembly Concurrent Resolution 38 (McClintock, 1986) requested that the University of California and the California State University report to the Commission on relative costs in specialized occupational fields of study and that the Commission comment on these reports to the Legislature by March 17, 1987. The Commission received the two reports too late for review by the staff prior to that deadline, but the staff forwarded them to Assemblyman McClintock on that date in order to meet the Legislature's timetable.

This subsequent Commission report evaluates the information in the University and State University reports and analyses the current State budgeting processes for the two institutions. In it, the Commission concludes that these processes are sufficiently responsive to the needs of different fields of study that no changes are needed to protect technical and professional disciplines. Thus on page 17 the Commission recommends continuation of the present budget processes.

The Commission adopted this report on April 27, 1987, on recommendation of its Administration and Liaison Committee. Additional copies of the report may be obtained from the Publications Office of the Commission. Further information about the report may be obtained from Kevin Gerard Woolfork of the Commission staff at (916) 322-8025.

EDUCATIONAL COSTS IN TECHNICAL AND PROFESSIONAL FIELDS OF STUDY

A Report to the Legislature in Response to Assembly Concurrent Resolution 38 (Chapter 50 of the Statutes of 1986)

CALIFORNIA POSTSECONDARY EDUCATION COMMISSION
Third Floor • 1020 Twelfth Street • Sacramento, California 95814-3985

COMMISSION REPORT 87-21
PUBLISHED APRIL 1987

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Introduction

ASSEMBLY Concurrent Resolution 38 (McClintock, 1986) requested the University of California and the California State University to report to the Commission on the budget allocation policies and procedures that they use to allocate resources among various technical and specialized fields of study. That resolution, which is reproduced in the Appendix, also asked the Commission to convey the results of the segmental reports, together with any recommendations that the Commission finds necessary regarding changes in the budget process, to the Legislature and the Governor by March 17 of this year

The Commission received the report from the California State University on February 23 and that from the University of California on February 24, and it transmitted these reports to Assemblyman McClintock by the deadline stated in the resolution. This present document constitutes the Commission's analysis of those reports and completes its responsibilities under the resolution.

Part One of this report describes the budget development and allocation procedures used by the State University and University of California in responding to the varying resource demands of different disciplines. It indicates that both segments develop yearly spending plans at the campus level with the input of faculty, deans, and students and that these plans are reviewed and amended by the systemwide offices in preparing the universities' budget proposals to the State. After the Legislature adopts the State budget and it is signed by the Governor, the systemwide offices distribute the appropriated funds to the campuses, and campus administrators then allot these resources to individual campus units to meet their particular needs. As Part One illustrates, both universities have the option of adjusting support in areas such as faculty salaries and staffing ratios to respond to changing demands for educational services.

Part Two on pages 15 - 17 presents the Commission's findings and conclusions from the segmental reports. It indicates that the Commission believes the current system of budgeting is appropriately responsive to the funding needs of the many educational fields of study at the University and State University, including technical fields, and that this system provides the flexibility needed to respond to changing student demands and to changes in systemwide and state educational priorities.

Although a formula-driven budgeting process tied to the resource requirements of individual disciplines could be developed for the two universities, the Commission concludes that it would be neither appropriate nor practical. Such a budgeting system would not only limit flexibility at the campus level and be cumbersome to operate, its developmental costs and complexities would likely outweigh its benefits. Therefore, the Commission recommends continuation of current State budget procedures regarding all disciplines at the two universities.

1 *Current Budgeting Processes*

IN this section of the report, the Commission explains the concepts and formulas used by the California State University and University of California to develop their operating budgets and the space standards and other criteria that they use for capital budget requests.

Both the State University and the University of California operate under greater budgetary flexibility than most State agencies and are exempt from several control sections of the annual Budget Act. To receive State funds, both the State University and University develop their budget requests in terms of six major "program classifications" -- Instruction, Public Service, Academic Support, Student Services, Institutional Support, and either "Independent Operations" (at the State University) or "Auxiliary Enterprises" (at the University). Beyond these six classifications, the University uses several additional classifications, including Organized Research, Teaching Hospitals, Operation and Maintenance of Plant, and Student Financial Aid.

Despite the greater number of program classifications at the University, of the two systems, the State University operates under more complex State budgetary formulas than the University.

The California State University

Operating budget

The State funds the State University's operations through a systemwide formula for each of its six program classifications. Except for physical plant operations within the program classification of Institutional Support, funding for all operations is based on enrollments -- either full-time equivalent, headcount, or both -- with step increases augmenting the funding base as enrollment increases.

Altogether, almost 90 percent of the State University's budget is related to enrollment changes in some way. For example, if actual full-time-equivalent enrollment varies by more than 2 percent from its budgeted level for the year, the Budget Act authorizes the Department of Finance to adjust the State University's current year budget to reflect these changes.

Some allotments within the budget are more sensitive to enrollment changes than others. For example, the number of faculty positions and deanships budgeted for each campus is determined by a standard formula, but the formula provides an additional faculty position for every additional 17.8 students, while additional deanships are allocated in terms of four different sizes of campus enrollment -- up to 1,000 students, to 5,000, to 10,000, and above -- that insulates this category from the effect of small enrollment changes.

In addition, the instructional budget is determined by three enrollments factors:

- The *level* of instruction (as either lower-division, upper-division, or graduate), since enrollment tends to decrease in a consistent pattern as the level of instruction increases, due in large measure to increased specialization at the higher course levels;
- The *mode* of instruction (such as lecture, laboratory, recitation, problem solving, or activity-intensive), since some modes of instruction are more costly to provide than others; and
- The *academic discipline* in which students enroll. (Since 1983, the State University has been allowed to use a "designated-market discipline" salary schedule to recruit faculty in "hard to hire" disciplines. Under this differential salary schedule, the Office of the Chancellor determines which specialties are suffering faculty shortages (currently business, computer science, engineering, and engineering technology) and new faculty in those disciplines earn more than equivalent new faculty in other disciplines. These salary differentials are currently 22 percent for assistant professors; 11 percent for associate professors; and 8 percent for professors.)

Display 1 on pages 4-5 reproduces the State University's faculty workload formulas that take into account the "level" and "mode" factors. As can be seen, the formulas recognize a difference in class size be-

DISPLAY 1 Faculty Workload Formula, The California State University

Classes meeting 1 hour for 1 unit of credit - - K factor: 1

C-1 Large lecture: Unlimited except by physical facilities or scheduling necessities.

C-2 Lecture-Discussion, including methods: normal limit 40

C-3 Lecture-Composition:)
Lecture-Counseling:) normal limit 30
Law-Case Study:)

C-4 Composition; accounting; Mathematics; Mathematical Statistics, Logic, and Philosophy; Business Math and English; Science Math; Music (Harmony, Theory, Composition, Counterpoint, Orchestration, Instrumentation, Conducting, Form and Analysis, Sight Singing); Speech: Public and Correction; Foreign Language (including literature and culture courses taught in the foreign language); Engineering Lecture Problems; Linguistics:) normal limit 25

C-5 Undergraduate Seminars:) normal limit 20
Graduate Discussion:)
Honors and Graduate Seminars: Normal limit 15

C-6 Clinical Processes: Education (Testing) Nursing Psychology Driver Training in simulator
Lower Division -- normal limit 20
Upper Division -- normal limit 10
Grad. Division -- normal limit 10
(or physical facilities in all divisions

Classes meeting 2 hours for 1 unit of credit -- K factor: 1.1

C-7 Art, Anthropology, Science activities: normal limit 24 or physical facilities

C-8 Education Workshops (includes methods taught on an activity basis in education and subject areas): normal limit 30
Social Science activity:
Science demonstration:

C-9 Music activity - large group: normal limit 40

C-10 Instrumental or vocal instruction: normal limit 10

C-11 Physical Education and Recreation activity:) normal limit 30, (or physical facilities)

C-12 Speech, Drama, and Journalism activities: normal limit 20

C-13 Business and Accounting Labs; Geography; Foreign Language; Home Economics; Psychology; Library Science; Photography; Engineering; Industrial Arts; Agriculture; Mathematics; Statistics:) normal limit, physical facilities or scheduling necessities

C-14 Remedial Instruction: EOP courses only: normal limit 15
Mathematics
Reading
Speech
Writing

Classes meeting 3 hours for 1 unit of credit -- K factor: 1.5

C-15 Laboratories in Art; Foreign Language; English (as a foreign language); Home Economics; Industrial Arts; Kinesiology; Speech Correction; Cartography; Audio-Visual; Mathematics; Library Science; Police Science) normal limit: physical facilities

(continued)

DISPLAY 1 (continued)

Classes meeting 3 hours for 1 unit of credit -- K factor: 2.0

C-16 Laboratories in Science; Psychology; Natural Resources; Agriculture; Engineering/Meteorology; Photograph:) normal limit: physical facilities, generally 24; allowable range 8-24 based upon learning situation, hazar to health and equipment, and availability of equip ment.

C-17 Demonstration-Laboratory, for clinical practice in off-campus facilities, conducted by college facility:) normal limit 9

Classes meeting more than 3 hours for 1 unit of credit -- K factor: 4.2

C-18 Coaching major intercollegiate sports: normal limit 20
(Not more than four per year for women)
(Not more than four per year for men)
(The sum including coeducational sports not to exceed eight per year)

Classes meeting more than 3 hours for 1 unit of credit -- K factor: 1.3

C-19 Coaching minor intercollegiate sports: normal limit 20

C-20 Production courses or workshops in: Art; Drama; Journalism; Music; Photography; Radio-TV; Debate: (resulting in a major public performance, showing or distribution.)) normal limit 20

C-21 Music -- major performance groups: normal limit 40
Symphony orchestra
College band
College chorus

S -- Allowance for supervisory staff:
(Only for courses providing individual supervision)

Undergraduate level:

S-25 Supervision of directed teaching and public school nursing) ratio: 1:25

S-36 Supervision of field work
Driver Training in car off campus
Work study
Project supervision) ratio: 1:36

S-48 Music - Studio instruction (majors only) ratio: 1:48

Graduate level:

S-25 Supervision of directed teaching and public school nursing
Supervision of field work
Work study
Theses and projects) ratio: 1:25

S-12* MSW Field Courses) ratio: 1:12

* To be used at campus option; to avoid confusion with C-12, code "23" in the Academic Planning Data Base.

Source: *Report of the California State University in Response to ACR 38* (Resolution Chapter 50, 1986), appendix D.

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tween lecture and laboratory instruction, in that laboratory instruction generates more positions for the same number of full-time-equivalent students at each level than does lecture instruction.

The budgets of different academic departments may vary not only because of the designated-market discipline differentials but also because of the mode in which they provide instruction. Thus differences in faculty staffing between less technical and more technical disciplines at any one level of instruction are typically the result of differences in the modes of instruction they use, with an engineering school necessarily employing more laboratory classes than an English department, which would use a greater proportion of lecture classes.

Turning from the State University's budget requests to its budget allocations, the State University does not specify how the presidents of its 19 campuses divide instructional resources among the particular teaching service areas on their campuses. Instead, campus administrators decide how to distribute those resources within general guidelines of the State University's instructional formula. For example, the Chancellor of the entire system apportions faculty positions to the 19 campuses according to the State University's own formula, and then campus administrators divide them among the teaching service areas, with each department receiving its faculty allocation based on its projected student credit units and other factors as determined by the administrators. Thus, although the State University's budget formulas generate differential levels of support for various fields of education, the formulas do not tightly constrain actual expenditures for these fields.

Only in the program classification category of "Instruction" does the distribution of resources depend on the department or particular discipline involved. Thus neither office space nor laboratory staffing are influenced by discipline but instead by the number of faculty positions allocated to the campus. Similarly, positions for clerical staff and maintenance personnel are combined under the title "Support Staff," and most of them are generated by this formula:

- *For campuses on the semester plan*: 0.22 times the number of full-time-equivalent faculty.
- *For campuses on the quarter system*: 0.242 times the number of full-time-equivalent faculty.

Similarly, additional technical positions are generated in proportion to full-time-equivalent enrollment in activity and laboratory courses, and campus administrators decide on the allocation of these support staff to particular departments in terms of general State University guidelines.

Capital outlay budgeting

In planning capital outlay projects, the State University evaluates the specific laboratory space needs of each discipline to be housed in any proposed building, based on State-approved space and utilization standards for laboratories and lecture halls that vary by academic discipline. (A "space standard" is defined as the number of assignable square feet required to support a discipline, as measured on a student workload and academic full-time-equivalent basis.) These standards were developed more than 25 years ago and are currently under review but are still used in capital outlay planning by both the State University and the University and, in 1987-88, by the Commission itself.

Display 2 on the opposite page shows the current space standards for disciplines at the State University, while Display 3 reproduces separate standards for self-instructional computer laboratories. As can be seen from Display 2, space allowances vary by the type of space needed as well as by discipline. Building unit and equipment costs also vary by discipline, as illustrated below:

Discipline	Building Unit Cost per Gross Square Foot	Group II Equipment Cost per Assignable Square Foot
Art	$94.00	$18.40
Business	98.00	16.90
Education	102.00	12.30
Engineering	119.00	57.00
Home Economics	98.00	14.10
Humanities	95.00	12.60
Industrial Arts	107.00	38.00
Language Art	104.00	27.70
Music	112.00	32.60
Physical Education	85.50	5.80
Psychology	120.00	30.80
Science	124.00	45.60
Social Sciences	95.00	12.60
Theatre Arts	105.50	17.30

Source: Physical Planning and Development Appendix 9902.251, "Estimating Cost Guide for the Capital Outlay Program, 1986-1987, and Five-Year Improvement Program, 1986-1987 Through 1990-1991," The California State University, December 1986.

DISPLAY 2 Space Standards, The California State University

Subject Field	Interim Teaching Laboratories ASF/100 WSCH	Graduate Research Laboratories ASF/Graduate Student	Offices ASF/Faculty FTE Faculty	Offices ASF/Faculty FTE Administrators	Miscellaneous Shops and Storage
Agriculture	Lower Division: 255 Upper Division: 341	150	110	40	10
Biological Science	Lower Division: 237 Upper Division: 341	120	110	35	10
Physical Science	Lower Division: 255 Upper Division: 400	120	110	35	10
Engineering	Lower Division: 387 Upper Division: 628	150	110	40	15
Mathematics	Lower Division: 127 Upper Division: 173	23	110	25	5
Psychology	Lower Division: 173 Upper Division: 341	72	110	30	7.5
Anthropology	Lower Division: 182 Upper Division: 257	71	110	30	7.5
Geography	Lower Division: 182 Upper Division: 257	71	110	30	7.5
Other Social Sciences	Lower Division: 127 Upper Division: 173	23	110	25	5
Art	Lower Division: 278 Upper Division: 369	105	110	25	10
Fine Arts	Lower Division: 257 Upper Division: 455	105	110	25	10
Other Humanities	Lower Division: 173 Upper Division: 228	23	110	25	5
Business Administration and Economics	Lower Division: 127 Upper Division: 173	23	110	33	7
Education	Lower Division: -- Upper Division: 228	23	110	50	10
Home Economics	Lower Division: 255 Upper Division: 341	23	110	50	10
Industrial Arts	Lower Division: 290 Upper Division: 471	113	110	30	15
Journalism	Lower Division: 255 Upper Division: 341	23	110	50	10
Health Sciences	Lower Division: -- Upper Division: 287	23	110	50	10
Other Professions	Lower Division: 168 Upper Division: 285	23	110	50	10
Classroom and Seminar	Lower Division: 43 Upper Division: 43 Graduate Division: 43				

Note: ASF = Assigned Square Foot. WSCH = Weekly Student Contact Hours. FTE = Full-Time Equivalent.

Source: *Report of the California State University in Response to ACR 38* (Resolution Chapter 50, 1986), appendix B.

DISPLAY 3 Computing Support Budget Formulas, The California State University

Supplementary budget language in 1984 mandated the development of computing support budget formulae for CSU and UC. The CSU has developed standards for student access to computing as follows:

Space Standards for Non-Scheduled Computer Laboratories

General Student Workstation:
49 square feet/workstation
Advanced Student Workstation:
86 square feet/workstation
(Assumes 32 workstations per laboratory)

Computer Laboratory Standards

Hours of availability: 80 hours per week
Station utilization: 66% (i.e., 53 hours per week)

Weekly Hours of Computer Access per FTE Student Enrollment in Courses

Discipline	Undergraduate	Graduate
Area Studies, Interdisciplinary Studies, Public Affairs	1	2
Education, Arts, Foreign Languages, Health, Home Economics, Industrial Education, Letters, Physical Education	2	3
Agriculture and Natural Resources, Biological Sciences, Communications, Library Science, Nursing, Psychology, Social Sciences	3	6
Architecture and Environmental Design, Mathematics, Physical Sciences	5	9
Business	8	12
Computer Science, Engineering	12	15

Source: *Report of the California State University in Response to ACR 38* (Resolution Chapter 50, 1986), pp. 4,5.

Additional equipment funding is provided in the current operations budget from the State General Fund, the Engineering and Computer Science Enhancement Program, and State Lottery revenues, since the State University has elected to use a portion of its lottery funds for instructional equipment purchases.

Funds to replace obsolete instructional equipment are allocated to campuses according to the campus-generated proportion of the total system's estimated depreciation. Although funding for replacing instructional equipment is thus not discipline-sensitive, campuses with high percentages of students enrolled in technical fields often receive more equipment replacement funds because these disciplines tend to utilize more instructional equipment than do liberal arts fields.

Areas of specified support

Two special budget provisions also are sensitive to the needs of technical disciplines -- Ancillary Support, and Engineering and Computer Science Enhancement.

- The Ancillary Support subprogram of the "Academic Support" program classification provides resources for a number of special educational activities unique to a single State University campus or a small number of campuses. Activities to enhance instruction in technical fields funded this way include a Computer-Aided Productivity Center at San Luis Obispo, a radiology facility at San Jose, and State University participation in the Inter-University Consortium for Educational Computing.
- Through the Engineering and Computer Science Enhancement program, established in 1982, the State provides supplemental funds to improve the quality of the State University's engineering and computer science degree programs, on the expectation that campuses will match these funds with donations from business and industry, whenever possible. Campuses submit annual competitive proposals for these funds to a systemwide review committee, which makes recommendations to the Chancellor for the distribution of funds. These funds are allotted to three activity categories -- (1) acquisition and maintenance of instructional equipment; (2) recruitment and retention of women and underrepresented students majoring in engineering or computer science; and (3) faculty and curriculum development -- but the proportion of funds allotted to each of these three categories is not fixed in advance. Rather, it is determined by campus and systemwide priorities. For the current year, the State's total investment in the program is $1.38 million, with 66.3 percent allocated to equipment acquisition, 26.2 percent to recruitment and retention; and 7.5 percent to faculty and curriculum development. Some campuses receive awards in all categories each year; others, in only one or two categories.

Summary

In sum, several components of the the State University's budget are directly sensitive to the resource needs of technical and professional fields of study, although the areas of the budget that formally recognize differences among disciplines, such as the differential staffing between lecture and laboratory-intensive disciplines and differential funding for faculty in certain fields, are limited But perhaps more important, most funding decisions for different departments occur at the campus level, within general parameters of the State University's funding formulas. As a result, while the amount of money going to a State University campus with many technical fields may equal that going to a campus particularly active in the traditional liberal arts, the allocation of funds among technical and liberal arts programs on these campuses may be quite different.

University of California

Operating budget

Unlike the State University, only two portions of the University's operating budget are affected directly by enrollment changes: -- (1) instruction and departmental research, and (2) library reference and circulation staffing -- but these two areas represent more than half of the University's State-supported budget.

The University's instruction and departmental research budget is based on a student-faculty ratio of 17.5 to 1, with each increase of 17.5 full-time-equivalent students funding one new faculty position at the Assistant Professor III level plus a fixed amount for related instructional support, including secretarial and support staff positions, operating equipment, travel, and other activities that support the instructional process. Library reference and circulation

staffing are similarly affected by increases in enrollment.

Enrollment on the eight general campuses of the University is funded on a "marginal cost per student" basis -- the estimated average cost of adding an additional student to the University's existing enrollment. This calculation is derived from three formulas: one each relating to faculty positions, teaching assistantships, and enrollment-related library costs.

State funding for health sciences at the University is on a marginal cost basis that varies by program and by level of student, as illustrated in Display 4. These varying student-faculty ratios within the health sciences, which have been in effect since 1970-71, are the major example of State-level differential funding based on specific disciplines in the University. Funds for health science support staff and equipment in each health science program are provided by the State for faculty positions based on support levels determined by the University which recognize that certain medical disciplines require more extensive equipment, maintenance, and technical personnel than others. For example, the University reports that veterinary medicine is a particularly costly discipline which utilizes a variety of animal species that must be fed, housed, and handled and that require much specialized equipment. Differences in support levels for veterinary medicine as compared with other health sciences are also due, however, to endowment income and campus allocations of discretionary funds such as the University Opportunity Fund.

The University's salary scales for academic and staff positions provide a different salary range for each payroll classification. Funds to adjust the salary schedules come from the State on the basis of overall percentage increases separately applied to the base budgets for academic and staff salaries. Since 1982-83, the University has also employed a system of salary differentials for faculty in "hard to hire" academic and professional disciplines that involve primarily engineering and business administration but also include a few special cases such as agronomy. These differentials average 20 to 30 percent, depending on rank and step.

Like the State University's budget, the University's budget can be adjusted in mid-year for enrollment changes. When actual full-time-equivalent enrollment varies by more than 2 percent from the budgeted level, the Department of Finance is authorized to

DISPLAY 4 Student-Faculty Ratios Used in Funding Health Sciences at the University of California

Schools of Medicine	
M.D. curriculum	3.5:1
House staff	
Campus and county hospitals	7:1
Other affiliated hospitals	10:1
Graduate academic and graduate professional	8:1
Family nurse practitioner	8:1
Allied health programs	20:1
Schools of Dentistry	
D.D.S. curriculum	4:1
House staff	
Campus and county hospitals	7:1
Other affiliated hospitals	10:1
Dental hygienist	8:1
Graduate professional	4:1
Graduate academic	8:1
Schools of Nursing	
B.S. curriculum	7.5:1
Graduate academic and graduate professional	8:1
Schools of Public Health	
B.S. curriculum, graduate academic and graduate professional	9.6:1
Residents	7:1
School of Veterinary Medicine	
D.V.M. curriculum	5.4:1
House staff	7.1
Graduate academic and graduate professional	8.1
School of Pharmacy	
Pharm.D. curriculum	11:1
House staff	7:1
Graduate academic	8:1
School of Optometry	
O.D. curriculum, graduate academic and graduate professional	12.5:1

Source: University of California, *Report in Response to Assembly Concurrent Resolution 38*, Table 1.

apply the same mid-year adjustment for the University's budget as it does for the State University.

The State appropriates funds for the operating budget of the University in a lump sum, with a few additional amounts of "line-item" support typically in instruction, research, academic support, student services, administration and plant operation. The Office of the President then allocates to the campuses the operating funds received from the State, with changes in the level of State funding applied incrementally to their base budgets within these categories: Fixed Costs - Price Increases and Merit Salary Adjustments; Workload - Enrollment; Workload - Operation and Maintenance; New and Improved Programs; and Salaries and Employee Benefits. Display 5 below shows the proposed changes in State funding for these categories in the 1987-88 budget.

The allocation of resources to the University's schools and instructional departments on its eight general campuses is based on the outcome of aca-

DISPLAY 5 *Proposed 1987-88 General Fund Budget Changes, The University of California (Dollars in Thousands)*

1986–87 Expenditures (Revised)		$1,788,315
Proposed Changes:		
A. Cost Adjustments		7,452
1. Faculty merit and promotion	$16,614	
2. Instructional support and libraries	3,350	
3. Benefits for annuitants	3,111	
4. Social security increase	3,330	
5. Teaching hospital subsidy	−5,000	
6. Restoration of 1986-87 base reduction	5,000	
7. Budgetary savings adjustment	3,000	
8. UC income adjustment	−3,656	
9. Special adjustment	−18,297	
B. Workload Adjustments		19,212
1. Undergraduate enrollment	12,681	
2. Library staffing (undergraduate related)	789	
3. Disabled students	482	
4. Operation and maintenance of plant	5,230	
5. Lease purchase payment	180	
6. One-time appropriation (Ch 1288/86)	−150	
C. Program Adjustments		16,156
1. Graduate enrollments	1,375	
2. Teaching assistants—training	500	
3. Education abroad	381	
4. Astronomy—Keck Observatory telescope	1,000	
5. Research on toxics substances	500	
6. Pacific Rim research	250	
7. Teaching hospital subsidy	7,500	
8. Library aquisitions—Pacific Rim	650	
9. Affirmative action—undesignated	1,000	
10. Building maintenance	3,000	
D. Employee Compensation Increase for 1987–88		28,152
1987–88 Expenditures (Proposed)		$1,859,287
Change from 1986–87:		
Amount	$70,972	
Percent	4.0%	

Source: *Report of the Legislative Analyst: Analysis of the 1987-88 Budget Bill*, Table 4, page 1078

demic, enrollment, and fiscal planning as well as faculty staffing patterns. This planning process involves all departments, deans, provosts, the campus chancellors, the Academic Senate, and the Office of the President. The campuses allocate funds to their schools and departments after extensive intra-campus consultations, and they have considerable flexibility to shift funds among programs and objects of expenditure (personal services, equipment, and the like). These decisions are based on a combination of enrollment-related workload and approved campus academic plans.

For staff positions, the Office of the President makes adjustments to the salary scales and allocates funds to each campus to cover these adjustments for the mix of employees by payroll classifications in the campus' budget. Allocation of funds for increases in employee benefits is based on estimates of the number of employees (or their total salaries) participating in various employee benefit programs, such as health insurance and retirement.

Capital outlay budgeting

Requests for capital funding at the University are developed on the basis of programmatic needs by discipline and take into account space and utilization standards adopted by the State as guidelines for esti-

DISPLAY 6 Space Planning Guidelines for Academic Programs by Space Type and Level for All

Assignable Sq. Ft. by Program by Space Type by Level			Agric. Sciences 1103						Engineering & Chemical Engr. 1107				Social Scienc.. 1109			
		Bio Sciences (All Campuses)	Ag. Sci. (B,D,R)	Ag. Econ. (B,D)	Ag. Bio Sci. (B,D)	Mathematical Sci. (All Campuses)	Computer Sci. (1,3B,3C)	Physical Sci. (All Campuses)	Engr. Sciences (B,D,I LA,SJ)	Chemical Engr. (B)	Agric. Engr. (D)	Psychology (All Campuses)	Gen. Social Sci. (All Campuses)	Anthropology (All Campuses)	Geography (B,D,I,LA,SJ)	
Space Type	Budgeted FTE	1102	.1	.2	.3	1104	1105	1106	.1	.2	.3	1108	.1	.2	.3	
Research Labs	Academic	250	300	53	275	60	100	250	300	275	500	145	40	145	145	
	Graduate	145	185	--	165	--	100	145	185	165	205	80	--	80	80	
Office	Academic	120	140	140	130	130	145	120	130	140	160	175	130	175	125	
	Graduate	15	15	30	15	30	15	15	15	15	15	15	30	15	35	
	Administrative	50	60	47	55	30	45	50	50	55	60	40	30	40	40	
Space Type	Course Level SCH															
Class Labs	Lower Division	2.25	2.30	.69	2.27	--	2.30	1.01	4.72	3.27	.72	1.21	.10	1.21	1.00	
	Upper Division	2.75	2.71	.79	2.73	--	1.25	2.63	2.50	2.57	2.50	1.42	.09	1.42	1.36	
Classrooms	Lower Division	.30	.32	.42	.31	.44	.35	.36	.25	.31	.25	.37	.43	.37	.40	
	Upper Division	.33	.33	.42	.33	.43	.39	.37	.34	.36	.34	.38	.42	.38	.40	
	Graduate	1.20	1.11	5.69	1.16	6.43	3.97	1.20	1.50	1.35	1.50	3.50	5.79	3.50	3.50	
Support (% of Total ASF)		.10	.10	.067	.10	.05	.10	.10	.15	.125	.15	.075	.05	.075	.075	

(1)

NOTES:

(1) Irvine: "General Social Sciences" program does not include History Department.

(2) Irvine: "Letters" program includes School of Humanities (Letters, Foreign Languages, and History Departments).

Santa Barbara: Departments of Philosophy and Religious Studies within "Letters" program use General Social Sciences program's classroom and class lab guidelines.

(3) Santa Barbara: "Letters" program includes Speech Department which uses anomalous space planning guidelines.

Source: University of California. *Report in Response to Assembly Concurrent Resolution 38*. Table 2.

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mating the need for instruction and research space by program. Display 6 on the bottom of these two pages presents these space standards.

In addition to State support, the University's capital budget is funded from gift and endowment funds, student fees, federal grants, user fees and other funds available to the Regents. State funds for capital outlay are appropriated by individual project, except for minor capital improvement projects costing less than $200,000, which are appropriated in a lump sum. Typical projects under this lump-sum program include alterations and renovations for new faculty or research initiatives, alterations to classroom and teaching facilities to provide state-of-the-art instruction, projects to correct life-safety deficiencies, and general campus improvements. Campus chancellors are delegated the authority to approve and allocate funds for non-state minor capital improvement projects funded from campus discretionary sources.

Funding for new space at the University is supported by the State on the basis of additional square footage to be maintained, with maintenance budgeted separately from other functions at both the Office of the President and campus levels. State funding for most new or improved programs at the University is made on a programmatic basis and is allocated to the campuses on the same basis, although some program im-

General Campuses of the University of California

Arts 1110		Letters 1111			Interdisciplinary Studies 1114													
Visual Arts (All Campuses)	Performing Arts (All Campuses)	Letters (All Campuses)	Speech (58)	Foreign Languages (All Campuses)	Interdisc. Studies (B,LA,SD)	Applied Behav. Studies (D)	Environ. Studies (I)	Social Ecology (I)	Creative Studies (SB)	Environ. Studies (SB,SC)	International Relations (SD)	Administration (B,D,I,LA,R)	Education (B,D,I,LA,SB,SC)	Environ. Des. & Plng. (B,D,LA)	Law (B,D,LA)	Social Welfare (B,LA)	Journalism (B)	Library Sciences (B,LA)
.1	.2	.1	.1	1112	.1	.1	.2	.1	.1	.1	.1	1201	1202	1203	1205	1206	1208	1211
100	100	40	70	40	40	125	187	145	--	145	80	53	80	109	80	40	80	53
125	125	--	62.5	--	--	35	143	80	--	60	20	20	20	130	25	20	--	20
140	140	130	135	130	130	140	175	175	130	125	160	140	150	140	160	130	160	140
15	15	30	22.5	30	30	15	15	15	30	35	10	10	10	10	5	10	30	10
30	30	30	30	30	30	80	45	40	30	40	80	47	80	30	80	30	80	47
3.26	3.26	--	1.63	--	.18	1.70	2.23	1.21	--	1.00	--	.69	1.70	3.26	--	.18	1.70	1.70
4.14	4.14	--	2.07	--	.09	2.18	2.75	1.42	--	1.36	--	.79	2.18	4.14	--	.09	2.18	2.18
.29	.29	.54	.415	.54	.43	.40	.30	.37	.54	.40	--	.42	.40	.29	.40	.43	.40	.43
.28	.28	.43	.355	.43	.42	.41	.33	.38	.43	.40	--	.42	.41	.28	.41	.42	.41	.41
3.60	3.60	6.43	5.015	6.43	5.79	5.49	1.20	3.50	6.43	3.50	5.49	5.69	5.49	3.60	5.49	5.79	5.49	5.49
.10	.10	.05	.075	.05	.05	.10	.10	.075	.05	.075	.10	.067	.10	.10	.10	.05	.10	.10
		(2)	(3)															

CAMPUSES
B - Berkeley (General Campus)
D - Davis (General and Health Sciences)
I - Irvine (General and Health Sciences)
LA - Los Angeles (General and Health Sciences)
R - Riverside (General)
SD - San Diego (General, Health Sciences, Marine Sciences)
SF - San Francisco (Health Sciences)
SB - Santa Barbara (General)
SC - Santa Cruz (General)

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provement funds are justified and allocated on a formula basis. Examples of the latter include increased funding for the Instructional Use of Computers (funded at $18 million in the current year) and the Instructional Equipment Replacement Program (funded at $26 million).

Areas of specified support

For different disciplines, the University employs different ratios of undergraduate students to teaching assistants who lead small group discussion and laboratory sections. Display 7 below shows the changes in workload and undergraduate/teaching assistant ratios by discipline category and total for the fiscal years 1971-72 and 1985-86. The University is currently seeking increased funding to lower the teaching assistantship ratio for all disciplines to the level that existed in 1971-72.

Summary

In sum, many aspects of the State budgeting process for the University provide varying levels of resources for technical and other fields of study. An additional degree of flexibility in the allocation of funds at the campus level is exercised by campus administrators.

DISPLAY 7 *Changes in Ratio of Undergraduates to Teaching Assistants at the University of California, 1971-72 to 1985-86*

Discipline Category	1971-72 Workload: FTE Undergraduates	1971-72 Workload as a Percent of Total	1971-72 Undergrad. to TA Ratio	1985-86 Workload FTE Undergraduates	1985-86 Workload as a Percent of of Total	1985-86 Undergrad. to TA Ratio	Changes Workload (FTE) Increase
Arts and Humanities	19,988	31.54%	39.44	22,765	27.91%	42.19	13.89
Social Sciences	23,068	36.40	67.48	28,982	35.53	64.17	25.64
Sciences	20,319	32.06	32.77	29,825	36.56	33.73	46.78
Total/Mean	63,375	100.00%	43.15	81,572	100.00%	45.00	28.71%

Note: "Sciences" includes chemistry, physics, and biology.

Source: University of California, Office of the President. *1987-88 Budget for Current Operations*, pages 39-41.

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2 *Findings and Conclusions*

Findings

Part One of this report makes clear that in terms of special recognition for technical fields of study at both the California State University and the University of California, a major distinction must be made between the use of cost formulas in budget development and in budget allocation. In terms of budget development, both segments employ State-approved cost formulas as their campuses develop budget proposals through faculty, student, and administrator interaction at the departmental, school, and campus level, as do systemwide administrators in coordinating each campus' requests in order to achieve campus and systemwide goals.

In terms of budget allocation, however, discretion exists at the campus level for making decisions on departmental funding, based on a combination of enrollment-related workload and approved campus plans. For example, even though most of the State University's funding is produced based on formulas, with few exceptions the Office of the Chancellor does not specify how each of the 19 campuses is to divide instructional resources among its own academic units. Resources in instructional budgets are determined to a great extent by the allocation of full-time faculty positions. Most faculty positions (and teaching assistantships in the University) are allocated to schools and departments on a permanent basis, but campus administrators distribute any additional positions acquired during the State budgeting process in response to shifts in enrollment, retirements, and other year-to-year changes in program needs.

Through Assembly Concurrent Resolution 38, the Legislature asked the Commission to consider "possible revision of the budgetary process employed by each institution with regard to funding requirements of technical fields of study" in order to assure that their budgeting process is sufficiently sensitive to the resource needs of these fields. From the Commission's review of the segments' reports submitted in response to ACR 38, it appears that the current budgeting system provides appropriate flexibility to both the University and State University to respond to changes in educational priorities, including technical fields. Thus the Commission does not believe that major changes by the State would better achieve those goals. The segments have already responded to increased resource needs for particularly "hard to hire" disciplines by adjusting their salary schedules, and while the Legislature and Governor could take further prescriptive steps regarding budget formulas, such changes would not necessarily improve the budgeting process with respect to technical fields and could result in confusion. The interaction of the cost elements of postsecondary education, such as those listed in ACR 38, is so complex that it would be very difficult to "single out" components that would benefit education only in technical fields.

The following paragraphs discuss the possibility and problems of developing a budgeting system more responsive to the resource needs of these fields than the current process

Revamping the budget process

To develop a funding system that would recognize significant differences in support needs by discipline at the State level would require determining the peculiar resource needs of individual disciplines and the cost to the State of providing those resources. That is, the actual cost of instruction would have to be determined for every discipline in order to identify the cost components peculiar to any of them. Determining such costs for each discipline in both segments is both difficult and uncertain. For example, the University of California states in its response to Assembly Concurrent Resolution 38:

> The cost of instruction for e.g., humanities, if we could measure it, would be lower than the average marginal cost rate, but the rate in the sciences or the professional schools would be higher. The relative costs of various disciplines are determined by a number of factors. Disciplines will be more costly to the extent that they are characterized by a relatively large nonacademic staff (such as laboratory support staff), salaries of academic staff, or

many lab or studio courses with high supply or equipment maintenance costs. Since these factors do not necessarily go together, different disciplines may be costly for different reasons.

In addition, it would be difficult to identify those cost components so unique to any given area, such as technical fields of study, that unintended increases in the funding of non-targeted fields would also result. For example, upper-division classes within a foreign language department may warrant the same increased use of teaching assistants as engineering because of the need for small sections, but enriching the ratio of teaching assistants to students would not only benefit a field targeted for more resources such as engineering but would increase funding for other fields such as foreign languages -- a costly and inefficient solution to the problem. There would also be differences in costs from campus to campus for the same disciplines, depending on the level of the student (lower-division, upper-division, graduate, first professional, etc.) and campus funding decisions.

Moreover, the ability of the segments and the State to develop a data base adequate to adjust educational cost components so as to more accurately reflect the cost of providing instruction in the different disciplines is questionable In 1980, the Legislature asked the Commission to study the feasibility of a "cost-of-instruction by major disciplines and level of instruction" approach for the three public segments of postsecondary education, but the Commission concluded in its response, *Determining the Cost of Instruction in California Public Higher Education* (Report 80-13, July 1980), that substantial methodological, feasibility, and cost constraints would be involved in such an undertaking. Not only would the quality and quantity of fiscal information currently compiled by the segments need to be substantially altered, some pertinent data would likely never be available. Based on these findings, the Legislature and Governor decided not to change the State budgeting process to reflect the cost of instruction.

Effects of budget formulas on program funding

Assuming that such data gathering problems could be solved, revisions to the current budget process might have only an incidental effect on the actual level of resources provided to any specific educational field. To implement a system in which changes in cost components, such as those listed in ACR 38, could have a greater impact on the actual funding of technical fields of study would require forfeiting much current campus-level flexibility. In their reports, both the University and the State University describe at length the consultation process that goes into the development of their campus budgets, and both report that much authority on allocation decisions is left to their campus administrations. The calculation of "cost components" does not weigh heavily in these discussions, since campus-level allocation decisions are naturally based more on campus and systemwide priorities than on State budgeting formulas. For instance, in its response to ACR 38, the State University notes:

> With rare exceptions, the California State University does not specify at the system level how instructional resources are to be divided among academic units at the campus level. Faculty and staff positions and funds for operating expenses and equipment are typically allocated to the campuses by an aggregated formula, and the campus administration decides how those resources are best distributed within the campus.

Therefore, while the budget formulas used to fund systemwide operating expenses in the aggregate might be changed to acknowledge different resource needs for technical fields, the final allocation of resources at the campuses may or may not reflect these differential elements.

Placing more of the decision-making process regarding final funding of individual campus programs at the level of the State and the systemwide offices of the segments would be a substantial change in State and segmental policy. The current budgeting system used by the State and the segments has, in the opinion of most, served the State well or at least has avoided many of the problems and rigidities of formulas in other states.

Funding levels of disciplines

Finally, funding by budget formulas does not always guarantee increased resources to a given discipline. In the early 1970s, the State made a decision to fund instruction in the health sciences at the University of California at differential rates, but this decision was based as much on the need to control expenditures in these programs as it was to increase the amount of funding going to them. Formulas for sup-

port of programs have the additional problem of being slow to change. Up to a year is usually needed to make adjustments in them, and these adjustments are sometime inadequate. Additionally, as the needs of a complicated discipline change over time, it becomes difficult to correspondingly refine a formula so that it remains appropriate. The strict use of budgeting formulas for disciplines tends to dominate the setting of priorities in campus planning and may refocus attention away from meeting educational needs and more toward the budgeting process.

The chief reason that some programs are funded at higher levels than others has much to do with the availability of total resources. State officials, systemwide officers, and campus administrators all have to make difficult decisions on the allocation of limited resources to satisfy seemingly unlimited demands for them. State officials conduct thorough evaluations prior to developing the proposed State budgets each year, and part of that process involves identifying priorities. Systemwide and campus administrators go through a similar process, as this report has described. That process appears to best suit the dynamic nature of resource needs in postsecondary education. No evidence suggests that technical fields of study fare any poorer in this process than do other disciplines over time. While the segments could be directed to identify cost components unique to technical fields of study in order to provide greater funding for those components, the basic "supply and demand" problems would continue to exist. Perceived needs for staffing, equipment, and other instructional support would always be greater than could be satisfied, and all educational fields would have to compete in the process of allocating limited resources.

Conclusions

In response to assembly Concurrent Resolution 38, segmental representatives have informed the Commission that the needs of technical fields are seriously considered in the campus planning process and reflected in budget allocation decisions. Campus flexibility in responding to changes in educational costs and demands appears to be the most efficient way of dealing with the issue of differences in costs among fields of study. Therefore, based on its review of the segmental reports and of the issues related to funding technical fields of study, the Commission recommends that no changes be made to the current systems for budgeting the University of California and the California State University for the purpose of recognizing the costs of individual disciplines more than is currently the State's budgeting practice.

Appendix *Assembly Concurrent Resolution 37 (1986)*

Assembly Concurrent Resolution No. 38

RESOLUTION CHAPTER 50

Assembly Concurrent Resolution No. 38—Relative to educational costs in technical fields of study.

[Filed with Secretary of State June 17, 1986.]

LEGISLATIVE COUNSEL'S DIGEST

ACR 38, McClintock. Postsecondary education: relative educational costs in technical fields of study.

This measure would request that the University of California, and the California State University, report to the California Postsecondary Education Commission regarding allocation of resources for academic support among various technical and specialized fields, as specified. This measure would request that the University of California and the California State University cooperate with and assist the commission, as specified.

Further, this measure would request that the commission convey the results of these reports along with any recommendation to the Legislature and the Governor, as specified.

WHEREAS, The education of students by the University of California and the California State University in technical fields of study including, but not limited to, engineering, medicine, dentistry, veterinary medicine, and architecture involves costs that are unique to those fields of study; and

WHEREAS, The University of California and California State University, for the most part, consider the unique needs of different technical disciplines with regard to the determination of budgets and the allocation of institutional resources for academic support; and

WHEREAS, Staff support services, overhead functions, space allocation, differential faculty salaries, and other budgetary considerations should reflect the unique needs of different disciplines; now, therefore, be it

Resolved by the Assembly of the State of California, the Senate thereof concurring, That the University of California and the California State University are hereby requested to report to the California Postsecondary Education Commission those policies and procedures which are used to allocate faculty, equipment, and other resources related to academic support among various technical and specialized fields including, but not limited to, engineering, computer science, medicine, dentistry, veterinary medicine, and architecture. The report shall include the extent to which those budget allocation policies and procedures include reference to all appropriate cost elements, including office space, laboratories, equipment acquisition and maintenance support personnel, class size, differential salaries for selected disciplines, and research support; and be it further

Resolved. That the California Postsecondary Education Commission is hereby requested to convey the results of these segmental reports, together with those recommendations which the commission finds necessary, to the Legislature and the Governor no later than nine months following adoption of this resolution; and be it further

Resolved. That the University of California and the California State University are hereby requested to cooperate with and assist the California Postsecondary Education Commission in preparing this report as a basis for possible revision of the budgetary process employed by each institution with regard to funding requirements of technical fields of study; and be it further

Resolved. That the Chief Clerk of the Assembly transmit a copy of this resolution to the Director of the California Postsecondary Education, the Regents of the University of California, and the Trustees of the California State University.

CALIFORNIA POSTSECONDARY EDUCATION COMMISSION

THE California Postsecondary Education Commission is a citizen board established in 1974 by the Legislature and Governor to coordinate the efforts of California's colleges and universities and to provide independent, non-partisan policy analysis and recommendations to the Governor and Legislature.

Members of the Commission

The Commission consists of 15 members. Nine represent the general public, with three each appointed for six-year terms by the Governor, the Senate Rules Committee, and the Speaker of the Assembly. The other six represent the major segments of postsecondary education in California.

As of March 1987, the Commissioners representing the general public are:

Seth P. Brunner, Sacramento
C. Thomas Dean, Long Beach, *Chairperson*
Seymour M. Farber, M.D., San Francisco
Cruz Reynoso, Los Angeles
Lowell J. Paige, El Macero
Roger C. Pettitt, Los Angeles
Sharon N. Skog, Mountain View, *Vice Chairperson*
Thomas E. Stang, Los Angeles
Stephen P. Teale, M.D., Mokelumne Hill

Representatives of the segments are:

Yori Wada, San Francisco; representing the Regents of the University of California

Claudia H. Hampton, Los Angeles; representing the Trustees of the California State University

Arthur H. Margosian, Fresno; representing the Board of Governors of the California Community Colleges

Donald A. Henricksen, San Marino; representing California's independent colleges and universities

Harry Wugalter, Thousand Oaks; representing the Council for Private Postsecondary Educational Institutions

Angie Papadakis, Palos Verdes; representing the California State Board of Education

Functions of the Commission

The Commission is charged by the Legislature and Governor to "assure the effective utilization of public postsecondary education resources, thereby eliminating waste and unnecessary duplication, and to promote diversity, innovation, and responsiveness to *student and societal needs.*"

To this end, the Commission conducts independent reviews of matters affecting the 2,600 institutions of postsecondary education in California, including Community Colleges, four-year colleges, universities, and professional and occupational schools.

As an advisory planning and coordinating body, the Commission does not administer or govern any institutions, nor does it approve, authorize, or accredit any of them. Instead, it cooperates with other state agencies and non-governmental groups that perform these functions, while operating as an independent board with its own staff and its own specific duties of evaluation, coordination, and planning.

Operation of the Commission

The Commission holds regular meetings throughout the year at which it debates and takes action on staff studies and takes positions on proposed legislation affecting education beyond the high school in California. By law, the Commission's meetings are open to the public. Requests to address the Commission may be made by writing the Commission in advance or by submitting a request prior to the start of a meeting.

The Commission's day-to-day work is carried out by its staff in Sacramento, under the guidance of its executive director, William H. Pickens, who is appointed by the Commission.

The Commission issues some 30 to 40 reports each year on major issues confronting California postsecondary education. Recent reports are listed on the back cover.

Further information about the Commission, its meetings, its staff, and its publications may be obtained from the Commission offices at 1020 Twelfth Street, Third Floor, Sacramento, CA 98514-3985; telephone (916) 445-7933.

Educational Costs in Technical and Professional Fields of Study
California Postsecondary Education Commission Report 87-21

ONE of a series of reports published by the Commission as part of its planning and coordinating responsibilities. Additional copies may be obtained without charge from the Publications Office, California Postsecondary Education Commission, Third Floor, 1020 Twelfth Street, Sacramento, California 98514-3985.

Other recent reports of the Commission include:

87-4 The California State University's South Orange County Satellite Center: A Report to the Governor and Legislature in Response to a Request from the California State University for Funds to Operate an Off-Campus Center in Irvine (February 1987)

87-5 Proposed Construction of San Diego State University's North County Center: A Report to the Governor and Legislature in Response to a Request for Capital Funds from the California State University to Build a Permanent Off-Campus Center of San Diego State University in San Marcos (February 1987)

87-6 Interim Evaluation of the California Student Opportunity and Access Program (Cal-SOAP): A Report with Recommendations to the California Student Aid Commission (February 1987)

87-7 Conversations About Financial Aid: Statements and Discussion at a Commission Symposium on Major Issues and Trends in Postsecondary Student Aid (February 1987)

87-8 California Postsecondary Education Commission News, Number 2 [The second issue of the Commission's periodic newsletter] (February 1987)

87-9 Expanding Educational Equity in California's Schools and Colleges: A Review of Existing and Proposed Programs, 1986-87. A Report to the California Postsecondary Education Commission by Juan C Gonzalez and Sylvia Hurtado of the Higher Education Research Institute, UCLA, January 20, 1987 (February 1987)

87-10 Overview of the 1987-88 Governor's Budget for Postsecondary Education in California, Presented to the Senate Budget and Fiscal Review Subcommittee #1 by William H. Pickens, Executive Director, California Postsecondary Education Commission (March 1987)

87-11 The Doctorate in Education: Issues of Supply and Demand in California (87)

87-12 Student Public Service and the "Human Corps": A Report to the Legislature in Response to Assembly Concurrent Resolution 158 (Chapter 165 of the Statutes of 1986) (March 1987)

87-13 Standardized Tests Used for Higher Education Admission and Placement in California During 1986: The Second in a Series of Annual Reports Published in Accordance with Senate Bill 1758 (Chapter 1505, Statutes of 1984) (March 1987)

87-14 Time Required to Earn the Bachelor's Degree: A Commission Review of Studies by the California State University and the University of California in Response to Senate Bill 2066 (1986) (March 1987)

87-15 Comments on the Report of the California State University Regarding the Potential Effects of Its 1988 Course Requirements: A Report to the Legislature in Response to Assembly Concurrent Resolution 158 (Chapter 165 of the Statutes of 1986) (March 1987)

87-16 Changes in California State Oversight of Private Postsecondary Education Institutions: A Staff Report to the California Postsecondary Education Commission (March 1987)

87-17 Faculty Salaries in California's Public Universities, 1987-88: The Commission's 1986 Report to the Legislature and Governor in Response to Senate Concurrent Resolution No. 51 (1965) (March 1987)

87-18 Funding Excellence in California Higher Education: A Report in Response to Assembly Concurrent Resolution 141 (1986) (March 1987)

87-19 The Class of '83 One Year Later: A Report on Follow-Up Surveys from the Commission's 1983 High School Eligibility Study (March 1987)

87-20 Background Papers of the ACR 141 Task Force on Funding Excellence in Higher Education (March 1987) (Correspondence from task force members preparatory to Commission Report 87-18.)

87-22 Update of Community College Transfer Student Statistics, University of California and the California State University, Fall 1986 (April 1987)

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